

Claims:

1. A gypsum panel comprising:  
a gypsum core having a planar first face and a planar second face,  
a fibrous facing material adhered at least to the first face; and  
a radiation cured coating of a radiation curable formulation on the fibrous facing material.
2. The gypsum panel of claim 1, wherein the fibrous facing material is a multi-ply paper facing material.
3. The gypsum panel of claim 1, wherein the fibrous facing material is a non-woven mat of mineral fibers.
4. The gypsum panel of claim 3, wherein the fibrous facing material is a single-ply glass fiber mat facing material.
5. The gypsum panel of claim 1, wherein the fibrous facing material is a woven or non-woven mat of synthetic fibers.
6. The gypsum panel of claim 1, wherein the fibrous facing material is a blend of mineral fibers and synthetic fibers.
7. The gypsum panel of claim 3, 4, 5 or 6 wherein the fibrous facing material has a dried coating of an aqueous mixture of a filler and a binder.
7. The gypsum panel of claim 1, wherein the gypsum core includes a water-resistant additive in an amount sufficient to improve the water-resistant properties of the core.
8. The gypsum panel of claim 7, wherein the water-resistant additive comprises at least one of a wax emulsion, an organopolysiloxane and a siliconate.

9. The gypsum panel of claim 8, wherein the gypsum core is essentially void of starch.
10. The gypsum panel of claim 1 having an aggregate material adhered to the radiation cured coating.
11. The gypsum panel of claim 7 wherein the aggregate material is selected from ceramic microspheres, glass microspheres, calcium carbonate, sand, aluminum oxide, crushed stone, glass fibers, gypsum and perlite.
12. The gypsum panel of claim 1, wherein:
  - the gypsum core includes at least one of a wax emulsion, an organopolysiloxane and a siliconate in an amount sufficient to improve the water-resistant properties of the core;
  - the gypsum core is essentially void of starch and
  - the fibrous mat facing material comprises glass fibers.